IN THE SPECIFICATION

Please amend the specification as follows:

In the Brief Description of the Several Views of the Drawings, after "FIG. 18", please add:

FIG. 19 is a schematic view of a conventional monochromator in the Czerny Turner or Ebert configuration.

FIG. 20 is a schematic view of a conventional monochromator in the Litrow configuration.

FIG. 21 is a schematic view of the arrangement of entrance and exit slits in the present invention, called the "Ryer configuration".

FIG. 22 is a schematic view of the invention using an independent light source and an independent sensor, in this example view mounted in the "Ebert" configuration.

In the Detailed Description of the Invention, at Pages 29, 30 and 32, the sketches have been removed.

In the Detailed Description of the Invention, at the last paragraph of Page 28 through the first paragraph of Page 30, please replace with the following:

A ~~principle~~ principal feature of the spectral instrument disclosed herein is a unique optical path monochromator. Modern monochromators utilize a dispersive element, usually a concave, holographic grating, and two apertures, commonly called "slits". One aperture, called the "entrance slit", focuses white light or a broad band optical beam entering the monochromator on the grating. The other slit, called the "exit slit", allows monochromatic light to exit the monochromator. The grating rotates about on optical axis to select which wavelength of light

passes through the exit slit. The position of the slits relative to the optical axes of the grating determines the configuration of the monochromator. Monochromators to date have been designed with the slits on one axis and separated symmetrical with respect to the other axis. The slits are separated in the dispersive axis in the Czerny Turner or Ebert configuration, ~~(see below)~~ see Figure 19.

~~The slits are separated in the non-dispersive axis in the Litrow configuration (see below).~~

In other monochromators, the slits are separated in the non-dispersive axis as in the Litrow configuration shown in Figure 20.

The invention described herein moves the slits off both axes ~~(see below)~~ as shown in Figure 21. This new configuration will be called the "Ryer" configuration.

This innovative configuration, shown in Figure 21, allows light to pass through the monochromator twice without interference. In order to explain the manner in which this spectral instrument works, the slits identified and noted in the sketches ~~above~~ of Figures 20 and 21 and those sketches that follow, will be used. Further, with the understanding that the optical spectrum includes more ~~that~~ than visible light wavelengths, reference will be made frequently to the visible light frequency spectrum.

In the Detailed Description of the Invention, at Pages 31 and 32, please replace the last paragraph at Page 31 with the following:

Additionally, there may be incorporated into the system the use of an independent light source and independent sensor mounted in the monochromator on one of the two optical axes to

allow initialization and verification of the position of the grating. These components are mounted in the "Ebert" configuration in the ~~current~~ example system ~~(see below)~~ as shown in Figure 22, but could also be mounted in the "Litrow" configuration.